



ESS RTU Product Information

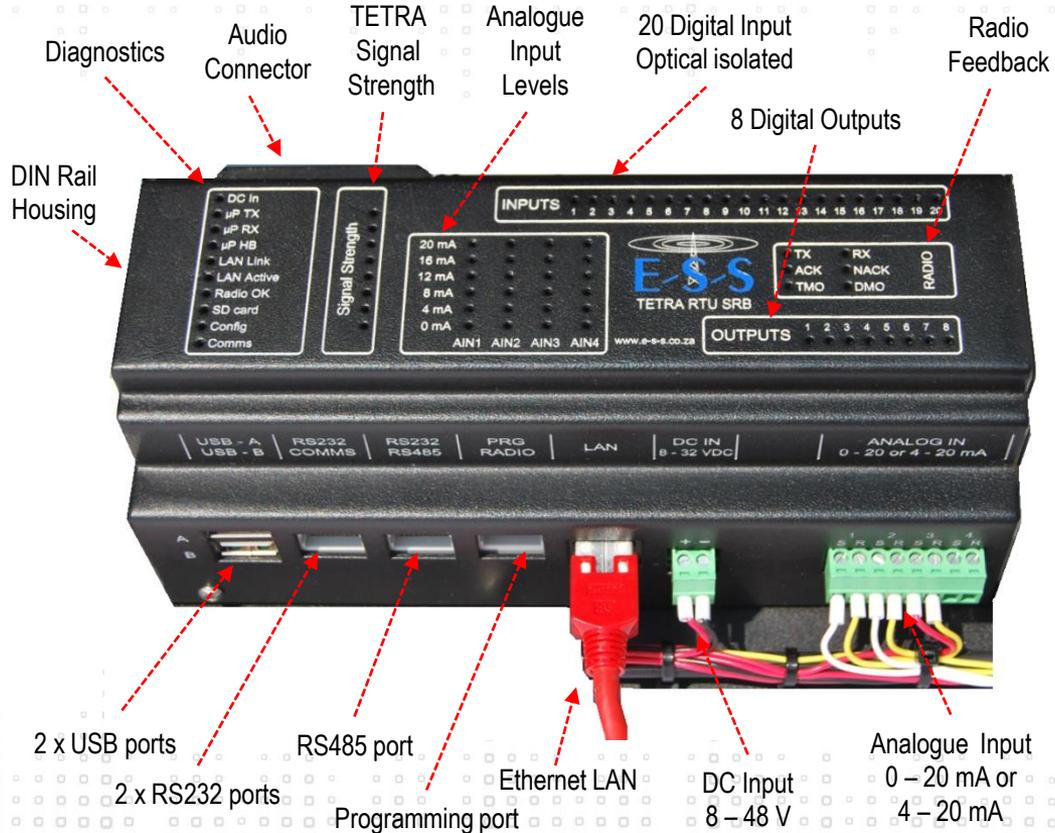
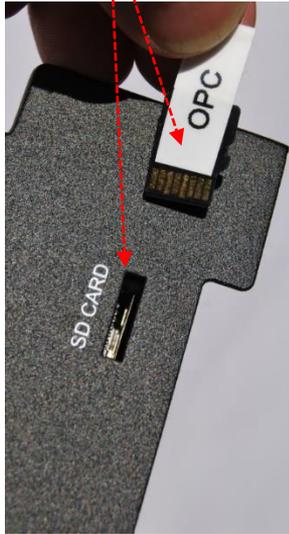
- ✓ ESS uses an embedded military grade industrial microprocessor with Linux OS
- ✓ Uses various communication media (GSM/LTE/TETRA/DMR/MPT/LAN)
- ✓ Intelligent way of minimising data to the Monitoring & Control Software (SCADA)
- ✓ All programming info resides on a removable SD card
- ✓ Easy to program, needs limited skill-set for changing parameters
- ✓ Protocols supported: OPC 1, 2 and 3, Modbus, IEC60870-101, 103, 104, IEC61850, DNP3
- ✓ Wide input operational voltage range and low power consumption (8 – 48 VDC)
- ✓ 4 analogue inputs (0/4 to 20 mA)
- ✓ 20 optical isolated digital inputs
- ✓ 8 digital outputs
- ✓ Supports 2 x USB devices
- ✓ Dual Watchdog Function
- ✓ Data buffer
- ✓ Logic functions
- ✓ End-2-End data encryption option





ESS RTU Product Information I/O's

Removable SD card





ESS RTU Product Range



RTU-SRB

RTU with internal
TETRA Modem



RTU-GSM

RTU with internal
GSM Modem



RTU-LAN

RTU for external communication
device e.g. DMR, TETRA, MPT1327,
GSM, Ethernet LAN

ESS RTU Product Range



AIN-EXT-08

Analogue Input Extender module, 8 inputs



DIN-EXT-16

Analogue Input Extender module, 8 inputs



DOUT-EXT-08

Digital Output Extender module, 8 outputs



ESS RTU Product Range

12V + -	12V + -	12V + -
IN 12 - 28 VDC	IN 12 - 28 VDC	IN 12 - 28 VDC
+IN -IN	+IN -IN	
Voltage Sensor	Voltage Sensor	
ANALOG OUT 0 - 20 mA	ANALOG OUT 0 - 20 mA	
DC INPUTS 0 - 04 VDC 0 - 15 VDC 0 - 30 VDC 0 - 60 VDC	DC INPUTS 0 - 04 VDC 0 - 15 VDC 0 - 30 VDC 0 - 60 VDC	Temp Sensor ANALOG OUT 0 - 20 mA
Current Sensor	Current Sensor	Temp Sensor
+12V IN -12V	+12V IN -12V	TX GND RX
Analog Output	Analog Output	Analog Output
GND GND OUT	GND GND OUT	12V OUT

ESS-A-CON	Current Controller
ESS-V-CON	Voltage Controller/Sensor
ESS-V-ISO-CON	Voltage galvanic isolated Controller/Sensor
ESS-T-CON	Temperature Controller



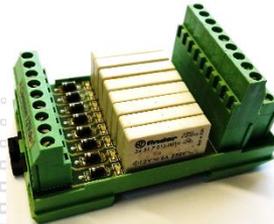
Current Sensor Input 0 - 50 Amp DC, output 0 - 20 mA



Temperature Sensor, -20 to 60 degrees C, output 0 - 20 mA



4 relay block
10 Amp contacts



8 relay block
6 Amp contacts



Passive galvanic
isolator 0 to 20 mA



ESS RTU Product Range



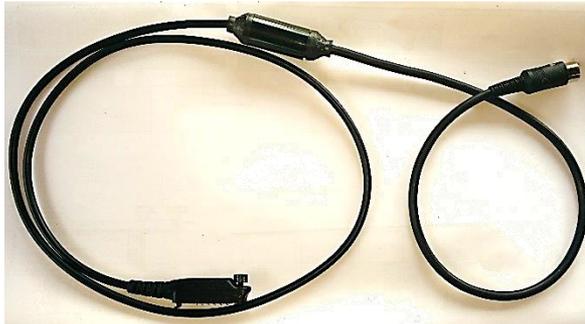
19 inch Status & Alarm (Site monitoring) mounting hardware for RTU, relays, voltage controller, current controller, temperature controller, analogue galvanic isolator (diesel level) including industrial terminal and wiring.



ESS RTU Product Range



19 inch Intelligent Power Supply
24VDC with battery charger and
battery backup



Audio Cable Interface
between ESS-RTU-SRB
and PA systems

ESS RTU Product Range



Public Address systems

comprising:

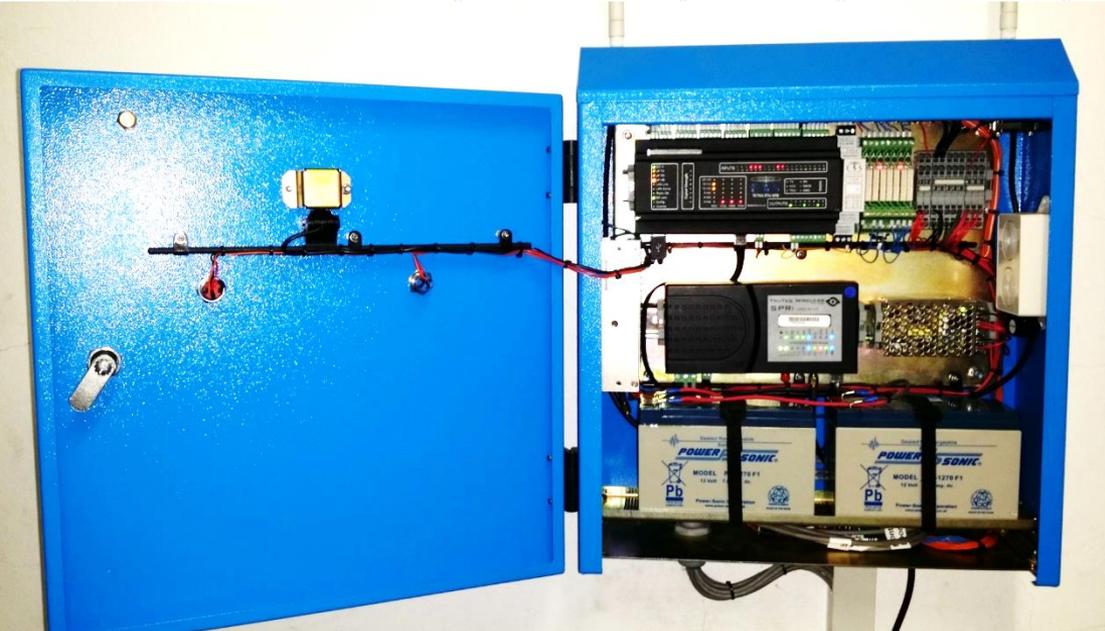
- ✓ Self supporting 9 meter tower
(no excavation or foundation required)
- ✓ Stainless Outdoor 19 inch cabinet
- ✓ Solar Panels
- ✓ Solar regulator
- ✓ Batteries
- ✓ PA amplifier
- ✓ TETRA RTU
- ✓ V, A, T Sensors
- ✓ Relays
- ✓ Door sensors
- ✓ Lode fall arrest fall protection
- ✓ Antenna

ESS RTU Product Range

BankVault Control Unit

comprising:

- ✓ RTU-LAN
- ✓ Indoor cabinet
- ✓ Voltage Sensors
- ✓ Relays
- ✓ HD Camera
- ✓ Dual GSM SIM card LAN Router
- ✓ 12 VDC supply (Sensors)
- ✓ 24 VDC supply (RTU and GSM modem)
- ✓ Buzzers and loudspeaker
- ✓ Door contactors
- ✓ Seismic sensors
- ✓ PIR sensors





ESS RTU Product Range: Software

Site Alarms

TOC	Spoorweg	Plant Site	South Site	North Site	Kathu WT	G80 Site	Vliegveld
Protea	Admin PABX	Lylveld	KGB PABX				

TETRA SNMP Alarms

Plant Site	South Site	G80 Site	North Site	Vliegveld	Lylveld	Protea	Spoorweg
Kathu WT	DAG 1	DAG 2	ADMIN	KGB			

Microwave Link SNMP Alarms

Admin WT - Plant	Plant - Admin WT	Spoorweg - KGB	KGB - Spoorweg	Admin WT - Kathu WT	Kathu WT - Admin WT	Plant - North	North - Plant
Plant - G80	G80 - Plant	Plant - South	South - Plant	South - Lylveld	Lylveld - South	Lylveld - Kathu WT	Kathu WT - Lylveld
South - Vliegveld	Vliegveld - South	Vliegveld - Protea	Protea - Vliegveld	Protea - Spoorweg	Spoorweg - Protea	G80 - Protea	Protea - G80
North - Spoorweg	Spoorweg - North	Kathu WT - Spoorweg	Kathu WT - Spoorweg				

System Alarm Status
System Ack Status
2017-06-13 08:58:40

RTU : Plant Site Node ID : 655001799158034 Address : 10.99.158.34 Network : LAN Last Input : 2016-09-05 20:46:10

Analogue Inputs

Battery	TETRA Current	Temperature	Generator Fuel				
48.45	20.53	36.54	62.09	N/A	N/A	N/A	N/A
Volts	Amps	degrees C	%				

Digital Inputs

1 AC Mains	2 DC Rectifier	3 Battery Banks	4 Front Door	5 Generator Door	6 Smoke Alarm	7 Smoke Sensor	8 Generator Running	9 Generator Fail	10 Generator Switch-O	11 Aircon Status	12 Aircon Dual Run
0	0	0	0	0	0	0	0	0	0	0	0
13 Blower Fan	14 Navigation Lights	15 DB Surge Protect	16 Microwave POE	17 LAN Switch 1 Status	18 LAN Switch 2 Status	19 Stay Wire Minor	20 Stay Wire Major	21	22	23	24
0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A

Digital Outputs

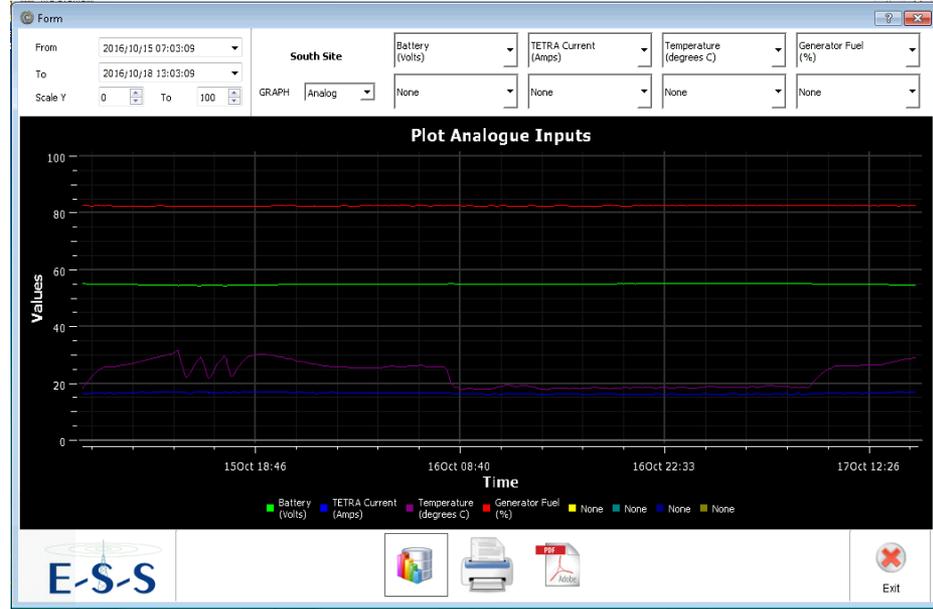
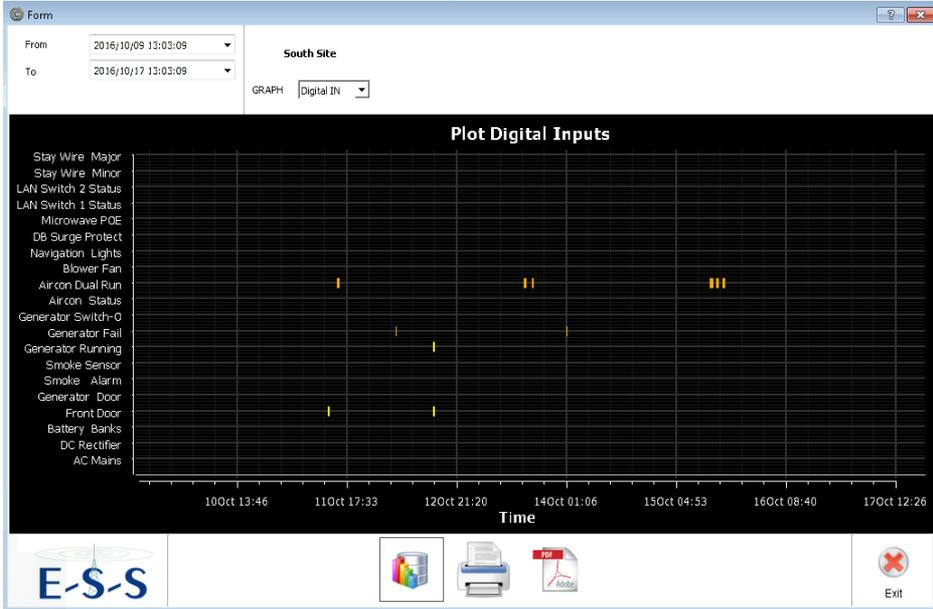
Generator Control	Output 5		
Output 2	Output 6		
Output 3	Output 7		
Output 4	Output 8		

RTU Alive Status

Alarm Monitoring & Control Software for high site monitoring and building management
(This software is compatible with SCADA by means of the OPC interface software)

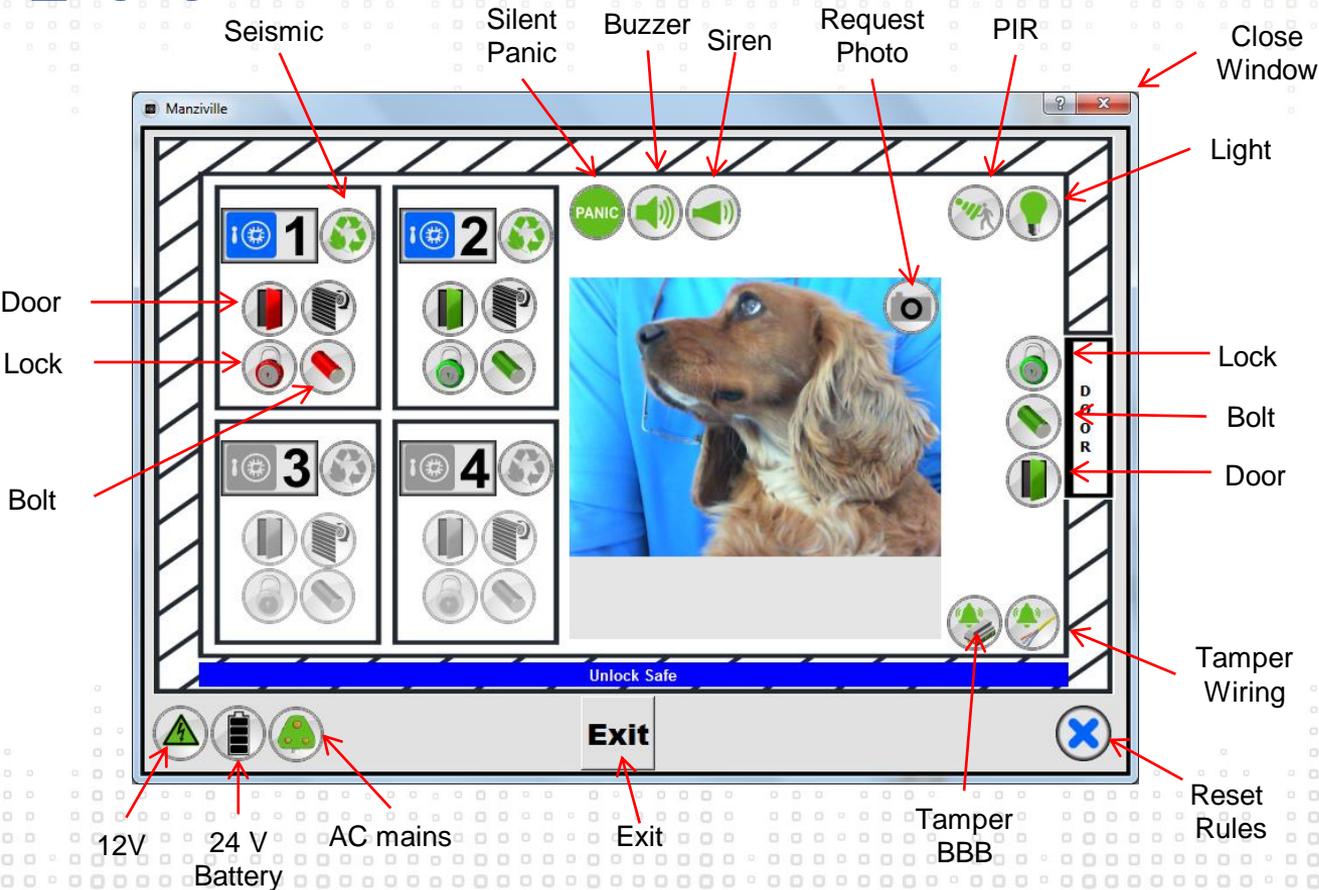


ESS RTU Product Range: Software



Digital and Analogue Input Trending and Plots

ESS RTU Product Range: Software



BankVault Software

Optimized for the banking sector.

The software provides for:

- ✓ custodian management
- ✓ access Control
- ✓ business rules
- ✓ alarm monitoring
- ✓ building management
- ✓ history tracking
- ✓ OTP generation
- ✓ Interface to other SQL DB